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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/661,986	09/14/2000	Harold Rosen	pd-2000083	8909
20991	7590	08/26/2004	EXAMINER	
THE DIRECTV GROUP INC			LY, NGHI H	
PATENT DOCKET ADMINISTRATION RE/R11/A109				
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DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/661,986

Applicant(s)

ROSEN ET AL.

Examiner

Nghi H. Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1 and 4-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perahia et al (US 6,188,896) in view of Durham et al (US 6,211,834).

Regarding claims 1, 9, 15, 16 and 17, Perahia teaches a method of preventing interference in a communication system (see column 2, lines 58-61 and see column 4, lines 29-33) comprising, the steps of: generating a fixed reuse pattern in a service area from a high altitude communications device (see fig.6), the pattern having at least a first

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resource cell and a second resource cell (also see fig.6) and reshaping the antenna surface (see column 5, lines 21-25, column 8, lines 16-20 and see column 12, lines 46-48).

Perahia does not specifically disclose selectively suppressing a side lobe of a beam having a first resource by selectively reshaping the antenna surface at interference locations and maintaining a shape of the antenna in non-interference locations to form a suppressed portion and a non-suppressed portion so that the non-suppressed portion aligns with the second resource cell and a side lobe suppressed portion aligns with the first resource cell.

Durham teaches selectively suppressing a side lobe of a beam having a first resource by selectively reshaping the antenna surface at interference locations (see column 11, lines 1-7) and maintaining a shape of the antenna in non-interference locations to form a suppressed portion and a non-suppressed portion so that the non-suppressed portion aligns with the second resource cell and s side lobe suppressed portion aligns with the first resource cell (see column 11, lines 1-7, the teaching of Durham inherently teaches maintaining a shape of the antenna in non-interference locations to form a suppressed portion and a non-suppressed portion so that the non-suppressed portion aligns with the second resource cell and s side lobe suppressed portion aligns with the first resource cell).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the teaching of Durham into the system of

Perahia in order to provide a new and improved multiband ring focus antenna architecture (see Durham, column 1, lines 7-11).

Regarding claims 4, 12 and 18, Perahia further teaches the first resource and the second resource comprise a frequency (see column 4, lines 43-46, "frequency reuse").

Regarding claims 5, 13 and 19, the combination of Perahia and Durham does not specifically disclose the first resource and the second resource comprise polarization. However, polarization reuse is commonly used for resource reuse and therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to design a system so the first resource and the second resource comprise polarization.

Regarding claims 6, 14 and 20, the combination of Perahia and Durham does not specifically disclose the first resource and the second resource comprise an orthogonal code. However, orthogonal code reuse is commonly used in CDMA system for resource reuse and therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to design a system so the first resource and the second resource comprise an orthogonal code.

Regarding claims 7 and 10, Perahia further teaches the high altitude communication device comprises a satellite (see fig.6).

Regarding claims 8 and 11, Perahia further teaches the high altitude communication device comprises a stratospheric platform (see fig.6, it is inherent that in the satellite-based system of Perahia include the system of stratospheric platform).

4. Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perahia et al (US 6,188,896) in view of Han et al (US 4,343,005) and further in view of Ohm (US 4,364,052).

Regarding claim 21, Perahia teaches in a fixed cell communication system having a fixed reuse pattern (see column 2, lines 16-37 and see column 9, line 61 to column 10, line 7), a method of reducing interference between beams having sidelobes (see column 3, lines 52-67).

Perahia does not specifically disclose a method of reducing interference comprising: performing side lobe suppression only for beams using a same communication resource.

Han teaches a method of reducing interference comprising: performing side lobe suppression only for beams using a same communication resource (see column 5, lines 24-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the teaching of Han into the system of Perahia so the reuse pattern can be shape according to the traffic pattern.

The combination of Perahia and Han does not specifically disclose selectively performing side lobe suppression only for beams using a same communication resource.

Ohm teaches selectively performing side lobe suppression only for beams (see Title, Abstract, and see column 1, line 64 to column 2, line 4, and see column 4, lines 65-68) using a same communication resource (see column 6, lines 9-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the teaching of Ohm into the system of Perahia and Han in order to provide antenna arrangement for suppressing selected side lobes (see Ohm, Abstract).

Regarding claim 22, Perahia further teaches generating the beams using an antenna on-board a high altitude communication device (see column 4, lines 29-32).

Regarding claim 23, Perahia further teaches the high altitude communication device comprises a satellite (see fig.6).

Regarding claim 24, Perahia further teaches the high altitude communication device comprises a stratospheric platform (see fig.6, it is inherent that in the satellite-based system of Parahia include the system of stratospheric platform).

Response to Arguments

5. Applicant's arguments with respect to claims 1 and 4-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (703) 605-5164. The examiner can normally be reached on 8:30 am-5:30 pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nghi H. Ly

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08/15/04


8/23/04
LESTER G. KINCAID
PRIMARY EXAMINER